

Excellence in Environmental Education from the Mountains to the Sea

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Peabody Mill Environmental Center



Explore the Peabody Mill Environmental Center during the **2009 NHEE Annual Conference on March 11.**

Calendar:

- **2009 NHEE Annual Conference March 11, Peabody Mill Environmental Center-Register Today!**
- Dr. John Carrol, UNH, presents his recently published research on Achieving Food Security and Sufficiency in New England: Environmental Conservation Imperative, Massabesic Audubon Center, Auburn, NH: **Sunday March 1, 1:30 – 2:30**
www.nhaudubon.org
- MEES Conference: Environmental Sustainability in our Schools, Centers and Selves; **March 4**, Worcester MA. www.massmees.org
- COEEA Conference: Sustainability Education in the 21st Century; **March 19**, New Britain CT www.coeea.org
- NHSTA Spring Conference: March 24: www.nhsta.net
- MEEA Conference: EE and the Green Economy; **March 27**, Wiscasset ME www.meeassociation.org/conference
- National Environmental Education Week: **April 12-18**: Be Water Wise! www.eeweek.org
- Association for Experiential Education Conference: **April 17-19**, Beckett, MA www.aee.org
- Earth Day 2009: **April 22**: starts The Green Generation Campaign! www.earthday.net
- Association of Nature Center Administrators 2009 Summit at the Squam Lakes Natural Science Center: **August 26-29**
www.natctr.org
- NEEEA Conference: An Arena of Issues and Solutions in a Changing World, **September 25-27**, Ivoryton CT. www.neeea.org
- National Association for Interpretation, National Interpreters Workshop in Hartford, CT: **November 17-21, 2009** www.interpnet.com

PRESIDENT'S MESSAGE

Happy New Year! We hope this message finds everyone healthy and enjoying the start of 2009. As we all know, every New Year usually comes with some change. Our NHEE Board is in transition with a number of members ending their tenure. Therefore, NHEE is looking for new members of the Board. The Board meets once each month and would involve a time commitment of about four hours per month. Without the critical input and organizational work of Board members our professional development offerings and conferences could be impacted. Please consider getting involved! We urge you to become an NHEE Board member. NHEE needs your help!

Over the last few months Board members have been working on a variety of items. Top on the Board to-do list has been the much anticipated annual spring conference. The conference is going to be held on **March 11, 2009** at the Peabody Mill Environmental Center from 9am-5pm. The theme of this year's conference will challenge you get in touch with your "inner Darwin" by **"Taking it to the Field: Building Inquiry Outdoors."** We hope you have reserved the date and will be able to attend and participate. The conference is shaping up to be one of the best! A provocative keynote presentation from Dr. Eleanor Abrams from the UNH Department of Education; outdoor exploration with Karen Bennet from UNH Cooperative Extension; a look at the effective development, use, and assessment of field science notebooks as learning tools with Erik Froborg; and many more great presentations will offer incredible opportunities for participants to experience the hands-on nature of this year's conference theme! We hope to see you in Amherst. Registration details can be found at the very end of this newsletter or on our website at nhee.org. For more information about the conference please contact Jessica at Jessica.Morton@des.nh.gov or call (603) 706-0291.

In December the board worked with the New England Environmental Education Alliance on a grant application to develop a NH Environmental Literacy Plan (ELP) through the EPA. The grant application was a collaboration of all the New England EE organizations. The board hopes the grant is funded; however, the board is not going to wait to see if we are accepted but rather we are going to start working on the project. The board is looking for other funding sources including using some of the NHEE budget to fund this project. For more information about the ELP please contact Audrey at audrey@reycenter.org or (603) 236-3308.

The board has also been working with the Department of Education on "May is Outdoor Science Learning Month" please see the information about this effort in this newsletter.

We hope you enjoy this second edition of the NHEE E-News. We are always looking for article suggestions. Please send us your ideas and comments. Thanks! We hope to see you in March at the annual conference.

Audrey Eisenhower and Jessica Morton

May Is Outdoor Science Learning Month!

By Susan Cox, NHEE Board

The goal is to have every student in NH participate in some outdoor science activity during the month of May. Recently, there has been a great deal of discussion about the importance of connecting with nature. This generation of school children has limited contact with nature and the outdoors. In an effort to encourage schools to enrich their science curricula and get children and adults outside, the New Hampshire informal science community has gathered together resources for outdoor learning opportunities that classroom teachers can use with students. Information will also be included about places to take students on field trips for additional science study.

Many New Hampshire schools have school yard habitats, outdoor classrooms, nature trails and gardens. Other schools have local parks and community green areas within a short walk. NH has wonderful resources and a variety of natural environments including tidal areas, fields, forests and mountains. May is a wonderful time to get children outside! Winter is over. The leaves are coming out on the trees. Plants are sprouting and song birds are returning to the north from a long winter in the south.

But wait; **there is a science test in May!** Many schools and districts, in an attempt to "cram" for the test, remove outdoor observations, labs & activities, and field trips from the curriculum during the weeks and days preceding the test. Since the NECAP Science Assessment is not designed to measure how well students remember vocabulary but is designed to see how

students think and understand science, this “cram effort” may not translate into increased scores on the assessment. It may increase the test anxiety felt by students and teachers in the school.

Success on the NECAP Science Assessment depends on students having access to a rich and well connected science curriculum year round and throughout their school career. Students should have opportunities to make observations, ask questions, develop those questions into investigations, work collaboratively, collect data, and use that data to support or refute their ideas.

So let's get NH kids outside to engage in science and scientific thinking. The resources will be available at the NECAP Test Administration workshops or can be downloaded from the web. (web location to be decided soon). Check the NH Science Blog for more information: www.nheon.org/science.

Organizational Spotlight: Peabody Mill Environmental Center

The Peabody Mill Environmental Center (PMEC) is an environmental and science education center which abuts the Joe English Reservation. Located at the end of Brook Road in Amherst, New Hampshire, the PMEC is directed by the Amherst Recreation Department. The mission of PMEC is to foster an awareness, understanding and appreciation of the natural world, by offering environmental, conservation, and science programs to all ages. PMEC strives to foster diligent stewardship of our environment so that future generations may inherit and continue to be inspired by the wonders of a protected and natural world.

PMEC is the gateway to a rare 600 acre parcel of untouched Amherst Conservation Commission land in southern New Hampshire and abuts thousands of acres of rarely used Air Force property. It is not uncommon for visitors to see evidence of moose, bear, fishers, bobcats, snowshoe hare, porcupine, beavers, deer and more on over 12 miles of trails. We are home to three streams, a small fishing pond, a beaver pond, and lots of aquatic life.

Our 5400 square foot sustainable building was just completed in 2008. The entire Amherst community joined together to make this new building a reality. Green features include a new geothermal heating and cooling system subsidized by PSNH; and environmentally friendly construction practices and materials. We are now home to several classrooms, an art studio, a science lab, public restrooms, a nature museum, library, and nature store. With our expanded facility, PMEC can provide an ideal meeting and small conference facility for getting back to nature.

PMEC offers a variety of environmental, conservation, and science programs to all ages. Children and families love such programs as Under the Moon Hikes, Animal Tracking, Leave No Child Inside School Vacation Day Programs, and monthly Creature Feature. Adults enjoy the PMEC's Annual Art Show; Crafting Programs; Stone Wall Building Classes; and Fireside Chats. PMEC's yearly Nature Spooktacular, featuring misunderstood animals, delights children of all ages. PMEC also offers GPS, fishing, and snowshoe rentals and programs on survival skills, orienteering, gardening, and more. This summer will be the 20th year of our beloved Hartshorn Summer Program. Every summer, hundreds of local children learn about nature and science in such popular classes as Out of this World, Wet and Wild, Woodland Fairy Escapades, Rock On and Capture the Flag with a Twist. Teens and adults immerse themselves in classes such as Nature Photography, while families take vacations to tackle week long projects such as Boat Building. Each summer, local teens perform over 2500 hours of community service assisting with Hartshorn Summer Programs.

PMEC is actively involved in providing science and environmental education to surrounding school districts, which meet local and NH state education curriculum standards.

PMEC also provides individualized environmental and science programs to scouting, homeschool, and community groups.

Our volunteers are an integral part of PMEC. Some volunteers help us greet families, groups of hikers, snowshoers, and others as they register for classes, rent equipment or stop by the on-site museum. Volunteers may also be program docents, gardeners or help complete center projects.

PMEC is fortunate to have an independent friends group that helps the center uphold its mission by providing volunteers and other services. Friends of PMEC may be reached by contacting PMECFriends@gmail.com.

More information on the PMEC and our programs can be found on our website at www.pmec.org or by calling 603-673-1141 or 603-673-6248. On-line registration information can be found at www.amherstrec.org.

NEEEA Update

By Ruth Smith, NHEE Representative to the NEEEA Board.

The NEEEA Board met for its quarterly meeting on January 30 at the Roger Williams Park Zoo in Providence, RI. Subcommittees have been busy working on various projects. The Communications Committee met with a graphic designer and the web master who does the website for the Massachusetts Environmental Education Society (MEES). Plans for a new NEEEA logo and website are progressing and we hope to present them at the NEEEA Conference in September.

The Fundraising Committee coordinated a 6-state effort to submit a grant proposal to the EPA to assist our region with developing Environmental Literacy Plans. Each state will create their own plan, but support, training and funding will likely be done on a regional basis. This is one of the great advantages to an organization like NEEEA where we can work together rather than all reinvent the wheel.

The Program & Trends Committee is planning two workshops, one in early April and the other in conjunction with the September conference. The spring event will be on EE Advocacy – how to get legislative support from EE nationally and within our states. Watch for more details. The fall State Leaders workshop will look at collaborating between formal & non-formal educators to address changing requirements, inquiry, and ways of working together for the benefit of students.

A new policy was approved by the board to create an incentive plan for each state during the year that it is hosting the NEEEA Conference. When states do well financially, any surplus from the conference will be divided in a 60%-40% division with NEEEA. This is great news for NH as we did very well last fall. As a result, NHEE will receive \$1278.32 back from our conference. The NHEE board has yet to determine how this money will be spent.

Join the NEEEA list serve. Go to www.neeea.org and sign up through Yahoo groups. It's a great way to stay informed of what's going on and communicate with other EE professionals around New England.

EE Resources:

A new report is out to validate the kind of work that many of us do. It is from National Academies Press, titled: Learning Science in Informal Environments: People, Places and Pursuits. Learn more or order a copy at: http://books.nap.edu/catalog.php?record_id=12190#description. The report states: "Informal science is a burgeoning field that operates across a broad range of venues and envisages learning outcomes for individuals, schools, families, and society. The evidence base that describes informal science, its promise, and effects is informed by a range of disciplines and perspectives, including field-based research, visitor studies, and psychological and anthropological studies of learning."

If you have recently changed your email address due to the FairPoint take over of Verizon (or any other reason), please make sure you update us with your new address.



Visit us on the web at <http://www.nhee.org>

If you have questions or comments contact the Newsletter Editor at acerno@earthlink.net

NHEE Conference Registration form attached below



2009 NHEE Annual Conference
Taking it to the Field: Building Inquiry Outdoors
March 11, 2009 – 8:00 a.m. – 5:00 p.m.

Peabody Mill Environmental Center, Amherst

Keynote Presentation: (11:15-12:00)

Dr. Eleanor Abrams, associate professor at the University of New Hampshire's Department of Education and program coordinator for the Masters of Arts in Environmental Education (MAEE) program

Professional Development Workshops:

Detailed descriptions available on following pages.

Concurrent Session A (9:00–11:00) Field Inquiry Experiences

A1. Carbon Storage in Your Local Forest

Sarah Silverberg, GLOBE Carbon Cycle Project Coordinator, UNH

A2. Seeing the Forest without the Leaves

Karen Bennett, Forester, UNH Cooperative Extension

Concurrent Session B (1:30–2:45)

B1. Is It (Outdoor) Inquiry

Kathleen Neville, Senior Program Naturalist Amoskeag Fishways

B2. Real science, real scientists, real issues: Schoolyard Ecology.

Pamela Snow, Environmental Educator, Harvard Forest

B3. Students as Real Scientists – Analyzing the Data

Jennifer Bourgeault, NCES GLOBE Partnership

Concurrent Session C (3:00–4:15)

C1. Inquiring Minds Head to the Field

Susan Cox, Conservation Education Coordinator, US Forest Service

Judy Silverberg PhD, Wildlife Education Supervisor, NH Fish and Game

C2. “No, We’re Not Journaling Again”

Erik Froborg, Leitzel Center, UNH

C3. Elementary GLOBE

Jennifer Bourgeault, NCES GLOBE Partnership

Silent Auction - Benefits NHEE Programs & Communications

Please contact Audrey Eisenhauer at audrey@reycenter.org or 603-236-3308 if you'd like to contribute an auction item.



What is inquiry? How can it help my students? How can I incorporate inquiry into my curriculum or programs? “Taking it to the Field: Building Inquiry Outdoors” will provide a venue for formal and nonformal educators to learn about and explore strategies for incorporating inquiry into outdoor lessons and programs, network with fellow EE’ers, and plan for the future!

Wednesday, March 11, 2009

(Snow date March 12)

**Peabody Mill Environmental Center
Amherst, NH**

Schedule of Events

8:00 Registration & Silent Auction Begin

8:45 Welcome

9:00 Concurrent Workshop, Session A

11:00 Break

11:15 Keynote Presentation

12:00 Lunch

12:45 Awards and Annual Meeting

1:30 Concurrent Workshop, Session B

2:45 Break

3:00 Concurrent Workshop, Session C

4:15 Networking and Social Hour

5:00 Silent Auction Ends

Annual Conference Registration and Membership Form - Registration Deadline March 9, 2009

☐ **Workshops, Lunch, Keynote Presentation and One-year NHEE Membership**

- ☐ \$45.00 Student ☐ \$85.00 Organization (2 memberships, 1 conference registration)
☐ \$60.00 Individual ☐ \$115.00 Organization (2 memberships, 2 conference registration)

Session A A1 ☐ Carbon Storage A2 ☐ Seeing the Forest

Session B B1 ☐ Is it Inquiry? B2 ☐ Schoolyard Ecology B3 ☐ Analyzing Data

Session C C1 ☐ Inquiring Minds Head C2 ☐ Journaling Again C3 ☐ Elementary GLOBE

☐ **I am unable to attend the annual conference, but would like to renew my membership!**

- **Memberships & Membership renewals**..... ☐ Student \$15
(NHEE memberships are due for renewal at the Annual Conference; ☐ Individual \$30
All non-members are requested to join NHEE in order to attend the conference.) ☐ Organization \$55

(For an Organizational membership 2 people receive benefits. Please include names and contact information for members below.)

→ **Total Amount Enclosed** (Make checks payable to NHEE).....\$_____

- ☐ I prefer a vegetarian meal.
☐ I am interested in carpooling. I will be traveling from (town)_____. (We will contact you to arrange.)
☐ I will be bringing an item for the silent auction.

Name: _____ E-mail address: _____

Mailing Address: _____ Organization/School _____

Home Phone: _____ Work Phone: _____

Return completed registration form and payment to: NHEE Conference, Jessica Morton, 221Parade Rd, Barnstead, NH 03218

A confirmation and directions to site will be sent to you upon receipt of your registration. Conference questions should be directed to Jessica Morton at jmorton@metrocast.net or 603-509-2789 or 603-706-0291.

Keynote Presentation: (11:15-12:00)

Presenter: Dr. Eleanor Abrams, associate professor at the University of New Hampshire's Department of Education and program coordinator for the Masters of Arts in Environmental Education (MAEE) program

The National Association for North American Environmental Educators (NAAEE) has embraced inquiry as one of the most authentic, relevant and effective pathways for children to learn about the natural world. Despite the prominence of inquiry in NAAEE guidelines, how to define it and how to effectively use inquiry-based teaching as an instructional methodology to stimulate student learning remains a mystery to most environmental educators. After years of discussion, writing and ongoing research with the foremost research experts in inquiry, there is not a consensus about what is inquiry but rather a range of definitions encompassing inquiry-based teaching, a view of what inquiry-based teaching looks like in practice and an understanding of the factors that influence the implementation of inquiry in informal and formal classrooms. The unique characteristics of informal settings will be highlighted as a rationale is laid out for what are some of the essential features of inquiry-based teaching and how some form of inquiry can be effectively implemented in every lesson to support your goals for student learning.

Program Descriptions: Concurrent Session A (9:00-11:00)

A1: Carbon Storage in Your Local Forest – What is carbon sequestration anyway?

Presenter: Sarah Silverberg, GLOBE Carbon Cycle Project Coordinator, University of New Hampshire

Do trees in your backyard store more or less carbon than the global human population? How will carbon storage change if forested areas are converted to baseball fields, parking lots or houses? Before you can answer these questions you must first know how much carbon is stored in your own backyard or schoolyard. We will begin by examining the concepts students should understand before entering the field, perform an inquiry exercise where you establish basic methods for field data collection, go to the field and make measurements, and come back to the classroom for a brief look at data analysis. Come learn how field data collection can bring the global carbon cycle to a local level.

A2: Seeing the Forest without the Leaves

Presenter: Karen Bennett, Forester, UNH Cooperative Extension

Tree identification can be very challenging when our deciduous trees have no leaves- especially when most of us learned only the leaves. Join me for an engaging and inquiring trek into our dormant forest to look at trees in a different light. Learn how to know your trees by looking at twigs, bark, shape and location. Come prepared for the weather as most of the time will be spent outdoors.

Program Descriptions: Concurrent Session B (1:30 –2:45)

B1: Is It (Outdoor) Inquiry

Presenter: Kathleen Neville, Senior Program Naturalist Amoskeag Fishways

Many of us regularly lead outdoor activities. But engaging students in hands-on outdoor exploration does not necessarily mean they are engaged in inquiry. Discussion will focus on the inquiry process and how to determine if outdoor lessons are truly inquiry based. Discover some simple ways to “inquiry” your time outdoors.

B2: Real science, real scientists, real issues: Schoolyard Ecology.

Presenter: Pamela Snow, Environmental Educator, Harvard Forest

This is an opportunity for educators to implement authentic ecological field studies in schoolyards or nearby. Research protocols and related educational tools have been developed between professional ecologists and staff at Harvard Forest, and K-12 teachers. Currently over 60 teachers participate in this hands-on program by getting students out to study "Buds, Leaves, and Global Warming", "Water in the Landscape: Vernal Pools", and/or "Woolly Bully; Will the tiny Hemlock Woolly Adelgid mean an end to one of New England's foundation trees?".

B3: Incorporating Non-Fiction Reading with Science

Presenter: Jennifer Bourgeault, NCES NH GLOBE Partnership

In this workshop, we will skip the data collection and use the vast amount of data collected about the environment that are available for free from the GLOBE Program (www.globe.gov). Teachers will begin with already developed activities that use data and then we will discuss how to explore environmental questions and investigate the answers using data from the Internet. Topics in weather, earth system interactions, soil, and hydrology can all be explored, as well as geography (climate) and climate change. The possibilities are endless with these data and your curriculum.

Program Descriptions: Concurrent Session C (3:00-4:15)

C1. Inquiring Minds Head to the Field

Presenters: Susan Cox, Conservation Educator State and Private Forestry, US Forest Service and Judy Silverberg PhD, Wildlife Education Supervisor, NH Fish and Game Dept.

Have your students become “real” scientists by studying the outdoors. We will use Field Investigations: Using Outdoor Environments to Foster Student Learning of Scientific Processes, to show how to develop appropriate level field investigations. Questions development, data collection, recording data and data analysis are just some of the skills necessary for field investigations.

C2: “No, We’re Not Journaling Again”

Presenter: Erik Froborg, Leitzel Center, University of New Hampshire

Explore how field notebooks can serve as a valuable tool for increasing skills of observation, data collection and self-direction in your students. We will discuss the differences between a traditional nature journal and a field notebook, look at a variety of actual research notebooks and look at some examples of student work. We will also cover the role of field notebooks in a K-12 environment, including their assessment. Depending on group size and time available, we may make some of our own notebook observations.

C3: Elementary GLOBE

Presenter: Jennifer Bourgeault, NCES NH GLOBE Partnership

Elementary GLOBE was designed to introduce K-4 students to the study of Earth System Science (ESS). Elementary GLOBE forms an instructional unit comprised of five modules that address ESS and interrelated subjects including weather, hydrology, seasons, and soils. Each Elementary GLOBE module contains a science based storybook, classroom learning activities and teacher's notes. We will introduce Elementary GLOBE by reading one of the storybooks and carrying out a couple of the activities. This set provides students with a meaningful introduction to technology, a basic understanding of the methods of inquiry, and connection to math and literacy skills.

A Note About Parking

Parking at Peabody Mill Environmental Center is limited. We highly encourage you to carpool with colleagues and friends. If you need assistance arranging a carpool please check the box on the registration form and we will assist you. Offsite parking with shuttle service to Peabody Mill Environmental Center will be available; you will receive details with your conference confirmation.